

WHAT IS CLAIMED IS:

1. A fundus camera for photographing a fundus of an eye to be examined, the fundus camera comprising:

an illumination optical system for illuminating the fundus with visible illumination light for photographing and with invisible illumination light for observation;

a photographing optical system, including a first image-pickup element which has sensitivity to a visible range, for picking up an image of the fundus with visible reflection light from the fundus;

an observation optical system for picking up the image of the fundus with invisible reflection light from the fundus, the observation optical system including

a wavelength-selecting mirror having a wavelength-selecting property of reflecting approximately all light within an invisible range and a part of light within the visible range and transmitting a large residual part of the light within the visible range, the wavelength-selecting mirror being disposed on a first optical path of the photographing optical system, and

a second image-pickup element having sensitivity to the visible range and the invisible range, the second image-pickup element being disposed on a second optical path divided from the first optical path by the wavelength-selecting mirror;

a fixation target projection optical system for

fixating an eye, the fixation target projection optical system including

a light-dividing member disposed on the second optical path of the observation optical system, and

a fixation target light source for emitting visible fixation target light, the fixation target light source being disposed in an approximately conjugate position with an image-pickup surface of the second image-pickup element on a third optical path divided from the second optical path by the light-dividing member;

and

a wavelength-selecting filter having a wavelength-selecting property of transmitting approximately all the light within the invisible range and a part of light within the visible range and reflecting another part of the light within the visible range, the wavelength-selecting filter being disposed on the second optical path between the wavelength-selecting mirror and the light-dividing member in an approximately conjugate position with the image-pickup surface of the second image-pickup element,

wherein the visible fixation target light is guided to the eye and photo-received on the second image-pickup element.

2. The fundus camera according to claim 1, wherein the wavelength-selecting mirror reflects approximately 10% to approximately 20% of the light within the visible

range.

3. The fundus camera according to claim 1, wherein the wavelength-selecting filter transmits approximately half of the light within the visible range.

4. The fundus camera according to claim 1, wherein the fixation target light source emits the fixation target light within a narrow visible range having a predetermined central wavelength, and

the wavelength-selecting filter transmits a part of the light within the narrow visible range having the predetermined central wavelength.

5. The fundus camera according to claim 1, wherein a reflection surface of the wavelength-selecting filter is formed to be a concave surface.

6. The fundus camera according to claim 1, wherein the illumination optical system includes an illumination optical system for photographing which projects the visible illumination light for photographing and an illumination optical system for observation which projects the infrared illumination light for observation.

7. The fundus camera according to claim 1, further comprising a moving unit which moves the fixation target light source within a plane approximately vertical to an optical axis of the fixation target projection optical system.